# CHAPTER 30
# ELEVATORS AND CONVEYING SYSTEMS

**User note:**

***About this chapter:*** *Chapter 30 contains the provisions that regulate vertical and horizontal transportation and material-handling systems installed in buildings. This chapter also provides several elements that protect occupants and assist emergency responders during fires.*

## SECTION 3001
## GENERAL

**3001.1 Scope.**

780 CMR 30.00 ~~This chapter~~ governs the design, construction, installation, *alteration* and repair of elevators and conveying systems and their components.

**3001.2 Emergency elevator communication systems for the deaf, hard of hearing and speech impaired.**

An emergency two-way communication system shall be provided. The system shall provide visible text and audible modes that meet all of the following requirements:

1. When operating in each mode, include a live interactive system that allows back and forth conversation between the elevator occupants and emergency personnel.
2. Is operational when the elevator is operational.
3. Allows elevator occupants to select the text-based or audible mode depending on their communication needs to interact with emergency personnel.

**3001.3 Referenced standards.**

Except as otherwise provided for in ~~this code~~ 780 CMR, the design, construction, installation, alteration, repair and maintenance of elevators and conveying systems and their components shall conform to ~~the applicable standard specified in Table 3001.3 and ASCE 24 for construction in *flood hazard areas* established in Section 1612.3~~ 780 CMR and 524 CMR.

**TABLE 3001.3**
**ELEVATORS AND CONVEYING SYSTEMS AND COMPONENTS**

| TYPE | STANDARD |
|---|---|
| Automotive lifts | ALI ALCTV |
| Belt manlifts | ASME A90.1 |
| Conveyors and related equipment | ASME B20.1 |
| Elevators, escalators, dumbwaiters, moving walks, material lifts | ASME A17.1/CSA B44, ASME A17.7/CSA B44.7 |
| Industrial scissor lifts | ANSI MH29.1 |
| Platform lifts, stairway chairlifts, wheelchair lifts | ASME A18.1 |

**3001.4 Accessibility.**

Passenger elevators required to be accessible or to serve as part of an *accessible* means of egress shall comply with ~~Sections 1009 and 1110.8~~ 780 CMR and 521 CMR.

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**3001.5 Change in use.**
A change in use of an elevator from freight to passenger, passenger to freight, or from one freight class to another freight class shall comply with ~~Section 8.7 of ASME A17.1/CSA B44~~ 780 CMR and 524 CMR.

**3001.~~5~~ 6 Applicable Requirements**.780 CMR or 524 CMR or the specialized codes may govern requirements associated with elevators and conveying systems. Where there is conflict or duplication of 780 CMR with 524 CMR then the requirement in 524 CMR shall apply. Where construction requirements including but not limited to fire rated construction and egress, are found in 780 CMR 30.00 and are not found in 524 CMR then the requirements of 780 CMR 30.00 shall apply.

## SECTION 3002
## HOISTWAY ENCLOSURES

**3002.1 Hoistway enclosure protection.**
Elevator, dumbwaiter and other hoistway enclosures shall be *shaft enclosures* complying with Sections 712 and 713.

**3002.1.1 Opening protectives.**
Openings in hoistway enclosures shall be protected as required in Chapter 7.

**Exception:** The elevator car doors and the associated hoistway enclosure doors at the floor level designated for recall in accordance with Section 3003.2 shall be permitted to remain open during Phase I Emergency Recall Operation.

**3002.1.2 Hardware.**
Hardware on opening protectives shall be of an *approved* type installed as tested, except that *approved* interlocks, mechanical locks and electric contacts, door and gate electric contacts and door-operating mechanisms shall be exempt from the fire test requirements.

**3002.2 Number of elevator cars in a hoistway.**
Where four or more elevator cars serve all or the same portion of a building, the elevators shall be located in not fewer than two separate hoistways. Not more than four elevator cars shall be located in any single hoistway enclosure.

**3002.3 Emergency signs.**
An *approved* pictorial sign of a standardized design shall be posted adjacent to each elevator call station on all floors instructing occupants to use the *exit stairways* and not to use the elevators in case of fire. The sign shall read: IN CASE OF FIRE, ELEVATORS ARE OUT OF SERVICE. USE EXIT STAIRS.

**Exceptions:**

1. The emergency sign shall not be required for elevators that are part of an *accessible* means of egress complying with Section 1009.4.

2. The emergency sign shall not be required for elevators that are used for occupant self-evacuation in accordance with Section 3008.

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**3002.4 Elevator car to accommodate ambulance stretcher.**
Where elevators are provided in buildings four or more *stories* above, or four or more *stories* below, *grade plane*, not fewer than one elevator shall be provided for fire department emergency access to all floors. The elevator car shall be of such a size and arrangement to accommodate an ambulance stretcher 24 inches by 84 inches (610 mm by 2134 mm) with not less than 5-inch (127 mm) radius corners, in the horizontal, open position and shall be identified by the international symbol for emergency medical services (star of life). The symbol shall be not less than 3 inches (76 mm) in height and shall be placed inside on both sides of the hoistway door frame.

**3002.5 Emergency doors.**
Where an elevator is installed in a single blind hoistway or on the outside of a building, there shall be installed in the blind portion of the hoistway or blank face of the building, an emergency door in accordance with ASME A17.1/CSA B44.

**3002.6 Prohibited doors.**
Doors, other than hoistway doors and the elevator car door, shall be prohibited at the point of access to an elevator car unless such doors are readily openable from the car side without a key, tool, special knowledge or effort.

**3002.7 Common enclosure with stairway.**
Elevators shall not be in a common *shaft enclosure* with a *stairway*.

**Exception:** Elevators within o*pen parking garages need not be separated from stairway enclosures*.

**3002.8 Glass in elevator enclosures.**
Glass in elevator enclosures shall comply with Section 2409.2.

**3002.9 Plumbing and mechanical systems.**
Plumbing and mechanical systems shall not be located in an elevator hoistway enclosure.

**Exception:** Floor drains, sumps and sump pumps shall be permitted at the base of the hoistway enclosure provided that they are indirectly connected to the plumbing system.

## SECTION 3003
## EMERGENCY OPERATIONS

**[F] 3003.1 Standby power.**
In buildings and structures where standby power is required or furnished to operate an elevator, the operation shall be in accordance with Sections 3003.1.1 through 3003.1.4.

**[F] 3003.1.1 Manual transfer.**
Standby power shall be manually transferable to all elevators in each bank.

**[F] 3003.1.2 One elevator.**
Where only one elevator is installed, the elevator shall automatically transfer to standby power within 60 seconds after failure of normal power.

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**[F] 3003.1.3 Two or more elevators.**
Where two or more elevators are controlled by a common operating system, all elevators shall automatically transfer to standby power within 60 seconds after failure of normal power where the standby power source is of sufficient capacity to operate all elevators at the same time. Where the standby power source is not of sufficient capacity to operate all elevators at the same time, all elevators shall transfer to standby power in sequence, return to the designated landing and disconnect from the standby power source. After all elevators have been returned to the designated level, not less than one elevator shall remain operable from the standby power source.

**[F] 3003.1.4 Venting.**
Where standby power is connected to elevators, the machine room *ventilation* or air conditioning shall be connected to the standby power source.

**[F] 3003.2 Fire fighters' emergency operation.**
Elevators shall be provided with Phase I emergency recall operation and Phase II emergency in-car operation in accordance with ASME A17.1/CSA B44.

**[F] 3003.3 Standardized fire service elevator keys.**
All elevators shall be equipped to operate with a standardized fire service elevator key in accordance with the *International Fire Code*.

## SECTION 3004
## CONVEYING SYSTEMS

**3004.1 General.**
Escalators, moving walks, conveyors, personnel hoists and material hoists shall comply with the provisions of Sections 3004.2 through 3004.4.

**3004.2 Escalators and moving walks.**
Escalators and moving walks shall be constructed of *approved* noncombustible and fire-retardant materials. This requirement shall not apply to electrical equipment, wiring, wheels, handrails and the use of $^{1}/_{28}$-inch (0.9 mm) wood *veneers* on balustrades backed up with noncombustible materials.

**3004.2.1 Enclosure.**
Escalator floor openings shall be enclosed with *shaft enclosures* complying with Section 713.

**3004.2.2 Escalators.**
Where provided in below-grade transportation stations, escalators shall have a clear width of not less than 32 inches (815 mm).

**3004.3 Conveyors.**
Conveyors and conveying systems shall comply with ASME B20.1.

**3004.3.1 Enclosure.**
Conveyors and related equipment connecting successive floors or levels shall be enclosed with *shaft enclosures* complying with Section 713.

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**3004.3.2 Conveyor safeties.**
Power-operated conveyors, belts and other material-moving devices shall be equipped with automatic limit switches that will shut off the power in an emergency and automatically stop all operation of the device.

**3004.4 Personnel and material hoists.**
Personnel and material hoists shall be designed utilizing an *approved* method that accounts for the conditions imposed during the intended operation of the hoist device. The design shall include, but is not limited to, anticipated loads, structural stability, impact, vibration, stresses and seismic restraint. The design shall account for the construction, installation, operation and inspection of the hoist tower, car, machinery and control equipment, guide members and hoisting mechanism. Additionally, the design of personnel hoists shall include provisions for field testing and maintenance that will demonstrate that the hoist device functions in accordance with the design. Field tests shall be conducted upon the completion of an installation or following a major *alteration* of a personnel hoist.

## SECTION 3005
## MACHINE ROOMS

**3005.1 Access.**
An *approved* means of access shall be provided to elevator machine rooms, control rooms, control spaces and machinery spaces.

**3005.2 Venting.**
Elevator machine rooms, machinery spaces that contain the driving machine, and control rooms or spaces that contain the operation or motion controller for elevator operation shall be provided with an independent *ventilation* or air-conditioning system to protect against the overheating of the electrical equipment. The system shall be capable of maintaining temperatures within the range established for the elevator equipment.

**3005.3 Pressurization.**
The elevator machine room, control rooms or control space with openings into a pressurized elevator hoistway shall be pressurized upon activation of a *heat or smoke detector* located in the elevator machine room, control room or control space.

**3005.4 Machine rooms, control rooms, machinery spaces, and control spaces.**
The following rooms and spaces shall be enclosed with *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both:

1. Machine rooms
2. Control rooms
3. Control spaces
4. Machinery spaces outside of the hoistway enclosure

The *fire-resistance rating* shall be not less than the required rating of the hoistway enclosure served by the machinery. Openings in the *fire barriers* shall be protected with assemblies having a *fire protection rating* not less than that required for the hoistway

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enclosure doors.

**Exceptions:**

1. For other than fire service access elevators and occupant evacuation elevators, where machine rooms, machinery spaces, control rooms and control spaces do not abut and do not have openings to the hoistway enclosure they serve, the *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, shall be permitted to be reduced to a 1-hour *fire-resistance rating*.

2. For other than fire service access elevators and occupant evacuation elevators, in buildings four *stories* or less above *grade plane* where machine room, machinery spaces, control rooms and control spaces do not abut and do not have openings to the hoistway enclosure they serve, the machine room, machinery spaces, control rooms and control spaces are not required to be fire-resistance rated.

**3005.5 Shunt trip.**
Where elevator hoistways, elevator machine rooms, control rooms and control spaces containing elevator control equipment are protected with automatic sprinklers, a means installed in accordance with Section 21.4 of NFPA 72 shall be provided to automatically disconnect the main line power supply to the affected elevator prior to the application of water. This means shall not be self-resetting. The activation of automatic sprinklers outside the hoistway, machine room, machinery space, control room or control space shall not disconnect the main line power supply.

**3005.6 Plumbing systems.**
Plumbing systems shall not be located in elevator equipment rooms.

## SECTION 3006
## ELEVATOR LOBBIES AND
## HOISTWAY OPENING PROTECTION

**3006.1 General.**
Elevator hoistway openings and enclosed elevator lobbies shall be provided in accordance with the following:

1. Where hoistway opening protection is required by Section 3006.2, such protection shall be in accordance with Section 3006.3.

2. Where enclosed elevator lobbies are required for underground buildings, such lobbies shall comply with Section 405.4.3.

3. Where an *area of refuge* is required and an enclosed elevator lobby is provided to serve as an *area of refuge*, the enclosed elevator lobby shall comply with Section 1009.6.

4. Where fire service access elevators are provided, enclosed elevator lobbies shall comply with Section 3007.6.

5. Where occupant evacuation elevators are provided, enclosed elevator lobbies shall comply with Section 3008.6.

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**3006.2 Hoistway opening protection required.**
Elevator hoistway door openings shall be protected in accordance with Section 3006.3 where an elevator hoistway connects more than three *stories*, is required to be enclosed within a *shaft enclosure* in accordance with Section 712.1.1 and any of the following conditions apply:

1. The building is not protected throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2.

2. The building contains a Group I-1, Condition 2 occupancy.

3. The building contains a Group I-2 occupancy.

4. The building contains a Group I-3 occupancy.

5. The building is a high rise and the elevator hoistway is more than 75 feet (22 860 mm) in height. The height of the hoistway shall be measured from the *lowest floor* to the highest floor of the floors served by the hoistway.

**Exceptions:**

1. Protection of elevator hoistway door openings is not required where the elevator serves only *open parking garages* in accordance with Section 406.5.

2. Protection of elevator hoistway door openings is not required at the level(s) of exit discharge, provided that the level(s) of exit discharge is equipped with an *automatic sprinkler system* in accordance with Section 903.3.1.1.

3. Enclosed elevator lobbies and protection of elevator hoistway door openings are not required on levels where the elevator hoistway opens to the exterior.

**3006.2.1 Rated corridors.**
Where *corridors* are required to be fire-resistance rated in accordance with Section 1020.2, elevator hoistway openings shall be protected in accordance with Section 3006.3.

**3006.3 Hoistway opening protection.**
Where Section 3006.2 requires protection of the elevator hoistway door opening, the protection shall be provided by one of the following:

1. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway *shaft enclosure* doors from each floor by *fire partitions* in accordance with Section 708. In addition, doors protecting openings in the elevator lobby enclosure walls shall comply with Section 716.2.2.1 as required for *corridor* walls. Penetrations of the enclosed elevator lobby by ducts and air transfer openings shall be protected as required for *corridors* in accordance with Section 717.5.4.1.

2. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway *shaft enclosure* doors from each floor by *smoke partitions* in accordance with Section 710 where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2. In addition, doors

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protecting openings in the *smoke partitions* shall comply with Sections 710.5.2.2, 710.5.2.3 and 716.2.6.1. Penetrations of the enclosed elevator lobby by ducts and air transfer openings shall be protected as required for *corridors* in accordance with Section 717.5.4.1.

3. Additional doors shall be provided at each elevator hoistway door opening in accordance with Section 3002.6. Such door shall comply with the smoke and draft control door assembly requirements in Section 716.2.2.1.1 when tested in accordance with UL 1784 without an artificial bottom seal.

4. The elevator hoistway shall be pressurized in accordance with Section 909.21.

**3006.4 Means of egress.**
Elevator lobbies shall be provided with not less than one *means of egress* complying with Chapter 10 and other provisions in this code. Egress through an enclosed elevator lobby shall be permitted in accordance with Item 1 of Section 1016.2.

## SECTION 3007
## FIRE SERVICE ACCESS ELEVATOR

**3007.1 General.**
Where required by Section 403.6.1, every floor above and including the lowest level of fire department vehicle access of the building shall be served by fire service access elevators complying with Sections 3007.1 through 3007.9. Except as modified in this section, fire service access elevators shall be installed in accordance with this chapter and ASME A17.1/CSA B44.

**Exceptions:**

1. Elevators that only service an open or enclosed parking garage and the lobby of the building shall not be required to serve as fire service access elevators.

2. The elevator shall not be required to serve the top floor of a building where that floor is utilized only for equipment for building systems.

**3007.2 Automatic sprinkler system.**
The building shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, except as otherwise permitted by Section 903.3.1.1.1 and as prohibited by Section 3007.2.1.

**3007.2.1 Prohibited locations.**
Automatic sprinklers shall not be installed in machine rooms, elevator machinery spaces, control rooms, control spaces and elevator hoistways of fire service access elevators.

**3007.2.2 Sprinkler system monitoring.**
The sprinkler system shall have a sprinkler control valve supervisory switch and water-flow-initiating device provided for each floor that is monitored by the building's *fire alarm system.*

**3007.3 Water protection.**
Water from the operation of an automatic sprinkler system outside the enclosed lobby shall be prevented from infiltrating into the hoistway enclosure in accordance with an approved method.

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**3007.4 Shunt trip.**
Means for elevator shutdown in accordance with Section 3005.5 shall not be installed on elevator systems used for fire service access elevators.

**3007.5 Hoistway enclosures.**
The fire service access elevator hoistway shall be located in a *shaft enclosure* complying with Section 713.

**3007.5.1 Structural integrity of hoistway enclosures.**
The fire service access elevator hoistway enclosure shall comply with Sections 403.2.2.1 through 403.2.2.4.

**3007.5.2 Hoistway lighting.**
When fire-fighters' emergency operation is active, the entire height of the hoistway shall be illuminated at not less than 1 footcandle (11 lux) as measured from the top of the car of each fire service access elevator.

**3007.6 Fire service access elevator lobby.**
The fire service access elevator shall open into an enclosed fire service access elevator lobby in accordance with Sections 3007.6.1 through 3007.6.5. Egress is permitted through the enclosed elevator lobby in accordance with Item 1 of Section 1016.2.

**Exception:** Where a fire service access elevator has two entrances onto a floor, the second entrance shall be permitted to be protected in accordance with Section 3006.3.

**3007.6.1 Access to interior exit stairway or ramp.**
The enclosed fire service access elevator lobby shall have *direct access* from the enclosed elevator lobby to an enclosure for an *interior exit stairway* or *ramp*.

**Exception:** Access to an *interior exit stairway* or *ramp* shall be permitted to be through a protected path of travel that has a level of fire protection not less than the elevator lobby enclosure. The protected path shall be separated from the enclosed elevator lobby through an opening protected by a smoke and draft control assembly in accordance Section 716.2.2.1.

**3007.6.2 Lobby enclosure.**
The fire service access elevator lobby shall be enclosed with a *smoke barrier* having a *fire-resistance rating* of not less than 1 hour, except that lobby doorways shall comply with Section 3007.6.3.

**Exception:** Enclosed fire service access elevator lobbies are not required at the *levels of exit discharge*.

**3007.6.3 Lobby doorways.**
Other than doors to the hoistway, elevator control room or elevator control space, each doorway to an enclosed fire service access elevator lobby shall be provided with a $^{3}/_{4}$-hour *fire door assembly* complying with Section 716. The *fire door assembly* shall comply with the smoke and draft control door assembly requirements of Section 716.2.2.1.1 and be tested in accordance with UL 1784 without an artificial bottom seal.

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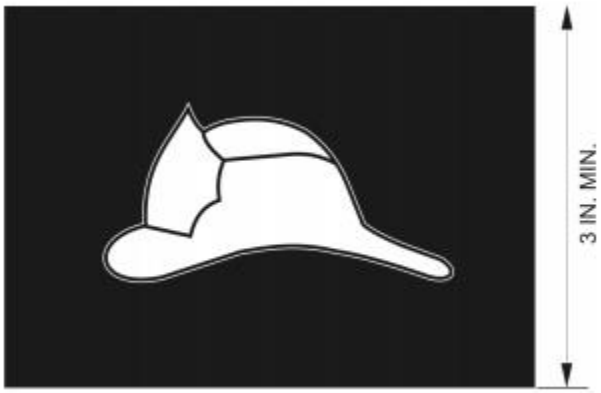
**3007.6.4 Lobby size.**
Regardless of the number of fire service access elevators served by the same elevator lobby, the enclosed fire service access elevator lobby shall be not less than 150 square feet (14 $m^2$) in an area with a dimension of not less than 8 feet (2440 mm).

**3007.6.5 Fire service access elevator symbol.**
A pictorial symbol of a standardized design designating which elevators are fire service access elevators shall be installed on each side of the hoistway door frame on the portion of the frame at right angles to the fire service access elevator lobby. The fire service access elevator symbol shall be designed as shown in Figure 3007.6.5 and shall comply with the following:

1. The fire service access elevator symbol shall be not less than 3 inches (76 mm) in height.

2. The helmet shall contrast with the background, with either a light helmet on a dark background or a dark helmet on a light background.

3. The vertical center line of the fire service access elevator symbol shall be centered on the hoistway door frame. Each symbol shall be not less than 78 inches (1981 mm), and not more than 84 inches (2134 mm) above the finished floor at the threshold.




For S.I. 1 inch = 25.4 mm.

**FIGURE 3007.6.5**
**FIRE SERVICE ACCESS ELEVATOR SYMBOL**

**3007.7 Elevator system monitoring.**
The fire service access elevator shall be continuously monitored at the *fire command center* by a standard emergency service interface system meeting the requirements of NFPA 72.

**3007.8 Electrical power.**
The following features serving each fire service access elevator shall be supplied by both normal power and Type 60/Class 2/Level 1 standby power:

1. Elevator equipment.

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2. Elevator hoistway lighting.

3. *Ventilation* and cooling equipment for elevator machine rooms, control rooms, machine spaces and control spaces.

4. Elevator car lighting.

**3007.8.1 Protection of wiring or cables.**
Wires or cables that are located outside of the elevator hoistway and machine room and that provide normal or standby power, control signals, communication with the car, lighting, heating, air conditioning, *ventilation* and fire-detecting systems to fire service access elevators shall be protected using one of the following methods:

1. Cables used for survivability of required critical circuits shall be listed in accordance with UL 2196 and shall have a *fire-resistance rating* of not less than 2 hours.

2. *Electrical circuit protective systems* shall have a *fire-resistance rating* of not less than 2 hours. *Electrical circuit protective systems* shall be installed in accordance with their listing requirements.

3. Construction having a *fire-resistance rating* of not less than 2 hours.

**Exception:** Wiring and cables to control signals are not required to be protected provided that wiring and cables do not serve Phase II emergency in-car operations.

**3007.9 Standpipe hose connection.**
A Class I standpipe hose connection in accordance with Section 905 shall be provided in the *interior exit stairway* and *ramp* having *direct access* from the enclosed fire service access elevator lobby.

**3007.9.1 Access.**
The exit enclosure containing the standpipe shall have access to the floor without passing through the enclosed fire service access elevator lobby.

## SECTION 3008

## RESERVED

## ~~OCCUPANT EVACUATION ELEVATORS~~

~~**3008.1 General.**~~
~~Elevators used for occupant self-evacuation during fires shall comply with Sections 3008.1 through 3008.10.~~

~~**3008.1.1 Number of occupant evacuation elevators.**~~
~~The number of elevators available for occupant evacuation shall be determined based on an egress analysis that addresses one of the following scenarios:~~

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1. Full-building evacuation where the analysis demonstrates that the number of elevators provided for evacuation results in an evacuation time less than 1 hour.

2. Evacuation of the five consecutive floors with the highest cumulative *occupant load* where the analysis demonstrates that the number of elevators provided for evacuation results in an evacuation time less than 15 minutes.

Not less than one elevator in each bank shall be designated for occupant evacuation. Not less than two shall be provided in each occupant evacuation elevator lobby where more than one elevator opens into the lobby. Signage shall be provided to denote which elevators are available for occupant evacuation.

**3008.1.2 Additional exit stairway.** Where an additional *means of egress* is required in accordance with Section 403.5.2, an additional *exit stairway* shall not be required to be installed in buildings provided with occupant evacuation elevators complying with Section 3008.1.

**3008.1.3 Fire safety and evacuation plan.** The building shall have an *approved* fire safety and evacuation plan in accordance with the applicable requirements of Section 404 of the *International Fire Code*. The fire safety and evacuation plan shall incorporate specific procedures for the occupants using evacuation elevators.

**3008.1.4 Operation.** The occupant evacuation elevators shall be used for occupant self-evacuation in accordance with the occupant evacuation operation requirements in ASME A17.1/CSA B44 and the building's fire safety and evacuation plan.

**3008.2 Automatic sprinkler system.** The building shall be equipped throughout with an *approved*, electrically supervised *automatic sprinkler system* in accordance with Section 903.3.1.1, except as otherwise permitted by Section 903.3.1.1.1 and as prohibited by Section 3008.2.1.

**3008.2.1 Prohibited locations.** Automatic sprinklers shall not be installed in elevator machine rooms, machinery spaces, control rooms, control spaces and elevator hoistways of occupant evacuation elevators.

**3008.2.2 Sprinkler system monitoring.** The *automatic sprinkler system* shall have a sprinkler control valve supervisory switch and water-flow initiating device provided for each floor that is monitored by the building's *fire alarm system*.

**3008.3 Water protection.** Water from the operation of an *automatic sprinkler system* outside the enclosed lobby shall be prevented from infiltrating into the hoistway enclosure in accordance with an *approved* method.

**3008.4 Shunt trip.** Means for elevator shutdown in accordance with Section 3005.5 shall not be installed on elevator systems used for occupant evacuation elevators.

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**3008.5 Hoistway enclosure protection.** Occupant evacuation elevator hoistways shall be located in *shaft enclosures* complying with Section 713.

**3008.5.1 Structural integrity of hoistway enclosures.** Occupant evacuation elevator hoistway enclosures shall comply with Sections 403.2.2.1 through 403.2.2.4.

**3008.6 Occupant evacuation elevator lobby.** Occupant evacuation elevators shall open into an enclosed elevator lobby in accordance with Sections 3008.6.1 through 3008.6.6. Egress is permitted through the elevator lobby in accordance with Item 1 of Section 1016.2.

**3008.6.1 Access to interior exit stairway or ramp.** The occupant evacuation elevator lobby shall have *direct access* from the enclosed elevator lobby to an *interior exit stairway* or *ramp*.

**Exceptions:**

1. Access to an *interior exit stairway or ramp* shall be permitted to be through a protected path of travel that has a level of fire protection not less than the elevator lobby enclosure. The protected path shall be separated from the enclosed elevator lobby through an opening protected by a smoke and draft control assembly in accordance Section 716.2.2.1.

2. Elevators that only service an *open parking garage* and the lobby of the building shall not be required to provide *direct access*.

**3008.6.2 Lobby enclosure.** The occupant evacuation elevator lobby shall be enclosed with a *smoke barrier* having a *fire-resistance rating* of not less than 1 hour, except that lobby doorways shall comply with Section 3008.6.3.

**Exception:** Enclosed occupant evacuation elevator lobbies are not required at the *levels of exit discharge*.

**3008.6.3 Lobby doorways.** Other than the doors to the hoistway, elevator machine rooms, machinery spaces, control rooms and control spaces within the lobby enclosure *smoke barrier*, each doorway to an occupant evacuation elevator lobby shall be provided with a $1\frac{3}{4}$-hour *fire door assembly* complying with Section 716. The *fire door assembly* shall comply with the smoke and draft control assembly requirements of Section 716.2.2.1.1 and be tested in accordance with UL 1784 without an artificial bottom seal.

**3008.6.3.1 Vision panel.** A vision panel shall be installed in each *fire door assembly* protecting the lobby doorway. The vision panel shall consist of fire-protection-rated glazing, shall comply with the requirements of Section 716 and shall be located to furnish clear vision of the occupant evacuation elevator lobby.

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**3008.6.3.2 Door closing.**
Each *fire door assembly* protecting the lobby doorway shall be automatic-closing upon receipt of any fire alarm signal from the *emergency voice/alarm communication system* serving the building.

**3008.6.4 Lobby size.**
Each occupant evacuation elevator lobby shall have minimum floor area as follows:

1. The occupant evacuation elevator lobby floor area shall accommodate, at 3 square feet (0.28 $m^2$) per person, not less than 25 percent of the occupant *load* of the floor area served by the lobby.

2. The occupant evacuation elevator lobby floor area shall accommodate one *wheelchair* space of 30 inches by 52 inches (760 mm by 1320 mm) for each 50 persons, or portion thereof, of the *occupant load* of the floor area served by the lobby.

**Exception:** The size of lobbies serving multiple banks of elevators shall have the minimum floor area *approved* on an individual basis and shall be consistent with the building's fire safety and evacuation plan.

**3008.6.5 Signage.**
An *approved* sign indicating elevators are suitable for occupant self-evacuation shall be posted on all floors adjacent to each elevator call station serving occupant evacuation elevators.

**3008.6.6 Two-way communication system.**
A two-way communication system shall be provided in each occupant evacuation elevator lobby for the purpose of initiating communication with the *fire command center* or an alternate location *approved* by the fire department. The two-way communication system shall be designed and installed in accordance with Sections 1009.8.1 and 1009.8.2.

**3008.7 Elevator system monitoring.**
The occupant evacuation elevators shall be continuously monitored at the *fire command center* or a central control point *approved* by the fire department and arranged to display all of the following information:

1. Floor location of each elevator car.

2. Direction of travel of each elevator car.

3. Status of each elevator car with respect to whether it is occupied.

4. Status of normal power to the elevator equipment, elevator machinery and electrical apparatus cooling equipment where provided, elevator machine room, control room and control space *ventilation* and cooling equipment.

5. Status of standby or emergency power system that provides backup power to the elevator equipment, elevator machinery and electrical cooling equipment where provided, elevator machine room, control room and control space *ventilation* and cooling equipment.

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6. Activation of any fire alarm initiating device in any elevator lobby, elevator machine room, machine space containing a motor controller or electric driving machine, control space, control room or elevator hoistway.

**3008.7.1 Elevator recall.** The *fire command center* or an alternate location *approved* by the fire department shall be provided with the means to manually initiate a Phase I Emergency Recall of the occupant evacuation elevators in accordance with ASME A17.1/CSA B44.

**3008.8 Electrical power.** The following features serving each occupant evacuation elevator shall be supplied by both normal power and Type 60/Class 2/Level 1 standby power:

1. Elevator equipment.

2. *Ventilation* and cooling equipment for elevator machine rooms, control rooms, machinery spaces and control spaces.

3. Elevator car lighting.

**3008.8.1 Determination of standby power load.** Standby power loads shall be based on the determination of the number of occupant evacuation elevators in Section 3008.1.1.

**3008.8.2 Protection of wiring or cables.** Wires or cables that are located outside of the elevator hoistway, machine room, control room and control space and that provide normal or standby power, control signals, communication with the car, lighting, heating, air conditioning, *ventilation* and fire-detecting systems to occupant evacuation elevators shall be protected using one of the following methods:

1. Cables used for survivability of required critical circuits shall be listed in accordance with UL 2196 and shall have a *fire-resistance rating* of not less than 2 hours.

2. *Electrical circuit protective systems* shall have a *fire-resistance rating* of not less than 2 hours. *Electrical circuit protective systems* shall be installed in accordance with their listing requirements.

3. Construction having a *fire-resistance rating* of not less than 2 hours.

**Exception:** Wiring and cables to control signals are not required to be protected provided that wiring and cables do not serve Phase II emergency in-car operation.

**3008.9 Emergency voice/alarm communication system.** The building shall be provided with an *emergency voice/alarm communication system*. The *emergency voice/alarm communication system* shall be accessible to the fire department. The system shall be provided in accordance with Section 907.5.2.2.

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**~~3008.9.1 Notification appliances.~~**
~~Not fewer than one audible and one visible notification appliance shall be installed within each occupant evacuation elevator lobby.~~

**~~3008.10 Hazardous material areas.~~**
~~Building areas shall not contain hazardous materials exceeding the maximum allowable quantities per *control area* as addressed in Section 414.2.~~

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